CITY OF MORGAN HILL **AUGUST, 1997**

JUNIOR ENGINEER

DEFINITION:

Under close or general supervision of the City Engineer and Senior Civil Engineers, performs a variety of professional civil engineering work related to all aspects of municipal engineering function; performs related work as required.

CLASS CHARACTERISTICS:

Junior Civil Engineer is the entry level class in this professional engineering series. Initially, work is clearly defined and performed under close review. As experience and proficiency are gained, assignments become more difficult and performed with greater independence. This class is distinguished form the Assistant Engineer class, which is the journey level of the professional engineering series, capable of working with minimal supervision on assigned projects or as part of a team on a larger project.

IMPORTANT AND ESSENTIAL JOB FUNCTIONS:

1. Design and detail structures, utility facilities, roadways, site improvements and various public works projects.

2. Oversee development of construction drawings for accuracy and conformance with design requirements.

3. Act as project engineer of construction projects of moderate difficulty.

4. Inspect the construction of engineered facilities for conformity with plans and specifications.

5. Direct the work of technical staff on specific projects.

6. Conduct studies and use computer programs to solve specific engineering problems.

7. Maintain accurate records and prepare clear and concise reports, correspondence and other written materials related to the work.

MARGINAL/PERIPHERAL JOB FUNCTIONS:

Junior Engineer

1. Prepare labor, material and workday estimates for construction projects.

2. Estimate cost, materials and labor, and time requirements.

3. Compile and compute engineering data and statistics.

4. Review plans submitted by developers for conformance to design and technical standards.

5. Perform related work as required.

QUALIFICATIONS:
Knowledge of:

1. Civil engineering principles and practices with particular reference to public works projects.

2. Methods and materials used in the construction of public facilities.

3. Engineering mathematics through calculus.

4. Basic surveying, drafting and materials testing techniques.

5. Data processing principles as applied to the solution of engineering problems.

Skill in:

1. Applying civil engineering principles to the solution of engineering problems.

2. Interpreting and preparing drawings, maps, graphs, specifications and compilation of numerical data.

3. Maintaining accurate records and preparing clear and concise reports.

4. Preparing engineering studies and evaluations.

5. Establishing and maintaining working relationships with those contacted in the course of the work.

Ability to:

Junior Engineer

1. Quickly learn the policies and procedures pertaining to the work.

2. Manage multiple construction or plan checking projects.

JOB REQUIREMENTS:

1. Bachelor's degree in Civil Engineering curriculum or closely related discipline from an accredited college or university, **or,** an Engineer-In-Training Certificate accepted by the State of California.

2. Possession of a valid California Class C driver's license in compliance with adopted City driving standards.

3. Must have sufficient mobility to inspect construction projects in the field.

4. Must be willing to work out of doors in various weather conditions.

OTHER QUALIFICATIONS:

1. Related work experience is desired, but not required.

MACHINES/TOOLS/EQUIPMENT UTILIZED

1. Various engineering measuring tools and equipment
2. Automobile
3. Reports, forms, pencils and pens
4. Maps, plans, and blueprints
5. Computer monitor, keyboard and printer
6. Copy and Fax machines
7. Calculator
8. Telephone

PHYSICAL DEMANDS:

1. Mobility
2. Walking
3. Speaking/hearing
4. Driving
5. Seeing
6. Sitting/standing
7. Speed in meeting deadlines

Junior Engineer

8. Manual dexterity
9. Lifting up to 20 lbs.

ENVIRONMENTAL AND ATMOSPHERIC CONDITIONS:

Office Conditions:

1. Indoors: normal office conditions, 80% of the time
   Travel: varying conditions, 20% of the time
2. Noise level: conducive to office setting
3. Lighting: conducive to office setting
4. Flooring: low level carpeting
5. Ventilation: provided by central air conditioning
6. Dust: normal, indoor levels

Field Conditions:

1. Outdoors: varying weather conditions
2. Noise level: varying low to high equipment noise
3. Flooring: grass, dirt, rock, asphalt, etc.
4. Dust: normal outdoor, to high outdoor levels associated with construction activities
5. Hazards: Investigating/surveying developed and undeveloped sites under various stages of construction